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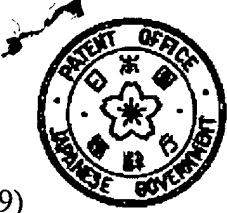
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(19)

(11) Publication number:

**58175851**

Generated Document.

## PATENT ABSTRACTS OF JAPAN

(21) Application number: **58044202**

(51) Intl. Cl.: **H01L 23/44**

(22) Application date: **18.03.83**

(30) Priority:

(43) Date of application  
publication: **15.10.83**

(84) Designated contracting  
states:

(71) Applicant: **HITACHI LTD**

(72) Inventor: **AKIYAMA HIROYUKI  
ITAHANA HIROSHI**

(74) Representative:

### **(54) ENCLOSED TYPE BOILING COOLER**

#### **(57) Abstract:**

**PURPOSE:** To obtain the header part of the cooler being light weight and having mechanical intensity enabling to endure pressure in a vessel by a method wherein the shape of the header part is improved.

**CONSTITUTION:** The enclosed boiling cooler is constructed as to communicate between an evaporator 3 accommodating a semiconductor 1 and being filled up with a coolant 2 as to dip the semiconductor 1, and a condenser to condense the evaporated coolant. The condenser is consisting of condensing pipes 5 of the plural number and the header parts 4 communicating the fellow condensing pipes 5, and thermally radiating fins 6 are equipped to the condensing pipes 5. Out of two sheet plates constituting the header part 4, the condensing pipes 5 are welded through the plate 11 on the inside, and moreover the plate 12 on the outside is welded by the whole circumference thereof to the plate 11 on the inside. The plates 11, 12 have the concave parts and the convex parts, and the fellow convex parts are

mate to come in contact mutually,  
and are joined mutually by employing  
plug welding, etc.

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